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NOTICE OF ALLOWANCE AND FEE(S) DUE

29344 7590 02/09/2011

MILLS & ONELLO LLP
ELEVEN BEACON STREET
SUITE 605
BOSTON, MA 02108

EXAMINER

SPOONER, LAMONT M

ART UNIT

PAPER NUMBER

2626

DATE MAILED: 02/09/2011

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/991,079

11/16/2001

Valery Tsourikov

IMC-0043

4738

TITLE OF INVENTION: SEMANTIC ANSWERING SYSTEM AND METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$300	\$0	\$1055	05/09/2011

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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29344 7590 02/09/2011

**MILLS & ONELLO LLP
ELEVEN BEACON STREET
SUITE 605
BOSTON, MA 02108**

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/991,079 11/16/2001 Valery Tsourikov IMC-0043 4738

TITLE OF INVENTION: SEMANTIC ANSWERING SYSTEM AND METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional YES \$755 \$300 \$0 \$1055 05/09/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
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SPOONER, LAMONT M 2626 704-009000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

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Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,079	11/16/2001	Valery Tsourikov	IMC-0043	4738
29344	7590	02/09/2011	EXAMINER	
MILLS & ONELLO LLP ELEVEN BEACON STREET SUITE 605 BOSTON, MA 02108			SPOONER, LAMONT M	
			ART UNIT	PAPER NUMBER
			2626	
DATE MAILED: 02/09/2011				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 399 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 399 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	09/991,079	TSOURIKOV ET AL.	
	Examiner	Art Unit	
	LAMONT M. SPOONER	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/06/2010.
2. ☒ The allowed claim(s) is/are 2-11 and 13-22.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <p>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____</p> <p>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material</p> | <p>5. <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____.</p> <p>7. <input type="checkbox"/> Examiner's Amendment/Comment</p> <p>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</p> <p>9. <input type="checkbox"/> Other ____.</p> |
|---|---|

DETAILED ACTION

Introduction

1. This office action is in response to applicant's arguments filed 12/06/2010. Claims 2-11, and 13-22 are currently pending and have been examined.

Response to Arguments

2. Applicant's arguments, see remarks, filed 12/06/2010, with respect to the rejections of claim 21, 2, 8, 11, 13, 20 and 22 under 35 USC 102(e), have been fully considered and are persuasive. The above rejection has been withdrawn.

Allowable Subject Matter

3. Claims 2-11 and 13-22 are allowed.

The following is an examiner's statement of reasons for allowance:

The instant application is deemed to be directed to a non-obvious improvement over the invention patented in Tsourikov et al. (Tsourikov, US 6,167,370), Katz (Annotating the World Wide Web using Natural language), Katz et al. (Katz II, Integrating Web resources and Lexicons into a Natural Language Query System), Paik et al. (Paik, US 6,263,335) and Brown et al. (Brown, US 6,665,666).

Tsourikov and Katz teach enabling a user to ask a question and for providing the user with one or more answers or solutions to such question. Katz II teach links to documents corresponding to the set of answers and a communication device configured to transmit the at least one answer S-A-O and a communication device configured to transmit associated active document links to a user apparatus. Paik teaches question and answers wherein a user apparatus converts human voice signals. Brown teaches a user question answering system installed locally, and query processing as generating a problem statement.

However, neither Tsourikov, Katz, Katz II, Paik, or Brown teach alone or in obvious combination:

Regarding **claim 3**, “a problem statement generator configured to receive a natural language query from a user apparatus and to automatically generate a problem statement as a query in the form A-O, S-A, S-X-O or S, where S, A and O are query elements in the natural language query, where X indicates absence of a query element; a server coupled to the knowledge base, **the server configured to search the knowledge base using the problem statement to find at least one S-A-O answer, wherein the A and O, or S and A, or S and O or S query**

elements in the problem statement are also in the at least one S-A-O answer, wherein the at least one S-A-O answer includes a statement extracted from a document that **provides a solution solicited by the natural language question**; and a communication device configured to transmit the at least one answer S-A-O and associated active document links to the user apparatus, wherein said server is configured to conduct a search of the World Wide Web, identify documents that include new answer S-A-O's each comprising query elements in the problem statement, store links to such documents, and add such new answer S-A-O's to the knowledge base, and **wherein said server is also configured to conduct said search of the World Wide Web automatically in response to the server determining that no answer S-A-Os exist in the knowledge base comprising the query elements in the problem statement.**

Regarding **claim 4**, "a problem statement generator configured to receive a natural language query from a user apparatus and to automatically generate a problem statement as a query in the form A-O, S-A, S-X-O or S, where S, A and O are query elements in the natural language query, where X indicates absence of a query element; a server coupled to the knowledge base, the server configured to **search the**

knowledge base using the problem statement to find at least one S-A-O answer, wherein the A and O, or S and A, or S and O or S query elements in the problem statement are also in the at least one S-A-O answer, wherein the at least one S-A-O answer includes a statement extracted from a document that provides a solution solicited by the natural language question; and a communication device configured to transmit the at least one answer S-A-O and associated active document links to the user apparatus, wherein **said server is configured to conduct a search of the World Wide Web, identify documents that include new answer S-A-O's each comprising query elements in the problem statement, store links to such documents, and add such new answer S-A-O's to the knowledge base, and **wherein said server is programmed to prompt the user for a command to initiate the search of the World Wide Web.****

Regarding **claim 14**, “automatically generating a problem statement in the form A-O, S-A, S-X-O or S from the natural language query, where S, A and O are query elements in the natural language query; using the problem statement, **identifying in the knowledge base at least one answer S-A-O, wherein the A and O, or S and A, or S and O, or S**

query elements in the problem statement are also in the at least one S-A-O answer; transmitting signals representative of the at least one answer S-A-O to the user apparatus; **and searching the World Wide Web, identifying documents that include new answer S-A-O's each comprising query elements in the problem statement**, storing links to such documents, and adding such new answer S-A-O's to the knowledge base, **including initiating said searching automatically in response to determining that no answer S-A-Os exist in the knowledge base that include the query elements in the problem statement.**

Regarding **claim 15**, “providing a knowledge base of semantically and automatically processed information including a set of answers in the form of S-A-O's (subject-action-object), and further comprising active links to documents corresponding to the set of answers; **automatically generating a problem statement in the form A-O, S-A, S-X-O or S from the natural language query, where S, A and O are query elements in the natural language query**; using the problem statement, identifying in the knowledge base **at least one answer S-A-O, wherein the A and O, or S and A, or S and O, or S query elements in the problem statement are also in the at least one S-A-O answer**; transmitting signals representative

of the at least one answer S-A-O to the user apparatus; and **searching the World Wide Web, identifying documents that include new answer S-A-O's each comprising query elements in the problem statement**, storing links to such documents, and adding such new answer S-A-O's to the knowledge base, **including prompting the user for a command to initiate the searching of the World Wide Web.**"

Regarding **claim 20**, "processing a natural language user query at a user device, including generating a **problem statement in the form A-O, S-A, S-X-O or S** from the natural language user query, where S, A and O are query elements in the natural language query and X indicates **absence of a query element**, converting the problem statement into a URL query, and sending the URL query to a semantic server having access to the knowledge base; **generating a non-keyword knowledge base query from the URL query at the semantic server and searching the knowledge base using the semantic elements and semantic relationships from the problem statement to find one or more answer S-A-O, wherein the one or more answer S-A-O includes the A and O, S and A, S and O, or S from the problem statement and an S, A, or O to replace each X in the problem statement, thereby completing the S-A-**

O format; and if the one or more answer S-A-O is found, converting the one or more answer S-A-O into at least one HTML page and sending the at least one HTML page to the user device; and processing the at least one HTML page at the user device to output the one or more answer S-A-O to the user query.”

Regarding **claim 21**, “a problem statement generator that processes the natural language question to extract **a problem statement in a format X-A-0, S-A-X, S-X-0, or S-X-X, wherein S, A, and 0 are semantic elements in the natural language question, X indicates absence of an S,A, or O;**

a knowledge base comprising an answer database including a set of answer S-A- Os and, for each answer S-A-O, a link to a source document; **a semantic server configured to perform a non-keyword query of the knowledge base using the semantic elements and semantic relationships from the problem statement to find at least one answer S-A-O, wherein the at least one answer S-A-O includes the A and O, S and A, S and O, or S from the problem statement and an S, A, or O to replace each X in the problem statement, thereby completing the S-A-**

O format; and a communication device configured to output the at least one answer S-A-O to a computer.”

Regarding **claim 22**, “processing the natural language question to extract **a problem statement in a format X-A-O, S-A-X, S-X-O, or S-X-X, wherein S, A, and O are semantic elements in the natural language question, X indicates absence of an S, A, or O**; providing a knowledge base comprising an answer database including a set of answer S-A-Os and, for each answer S-A-O, a link to a source document; **performing a non-keyword query of the knowledge base using the semantic elements and semantic relationships from the problem statement to find at least one answer S-A-O, wherein the at least one answer S-A-O includes the A and O, S and A, S and O, or S from the problem statement and an S, A, or O to replace each X in the problem statement, thereby completing the S-A-O format**; and outputting the at least one answer S-A-O to a computer.”

Claims 2, 5-11, 12, and 16-18, which depend from their respective allowed independent parent claims, are also allowed.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays,

should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAMONT M. SPOONER whose telephone number is (571)272-7613. The examiner can normally be reached on 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571/272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R Hudspeth/
Supervisory Patent Examiner, Art Unit 2626

lms
1/29/11